

#### Abstract of the Invention

A thermistor device having a high-speed response to temperature and a large ON/OFF ratio at the operating temperature. The thermistor device comprises a first layer of a first material having a positive temperature coefficient of resistance and a second layer of a second material having a semiconductivity and formed directly on the first layer. As the first material changes from conductive to a semiconductive or an insulative at or near the transition temperature  $T_{M-I}$ , the interface between the first and second layer changes to a pn junction.